

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (CURRENTLY AMENDED) A method for predicting the time required to

execute a database command, comprising:

measuring a plurality of execution times to complete the database command, wherein the database command is a database utility command;
recording the measured execution times, thereby creating a time historical record; and
using the time historical record to estimate the time required to execute the database command, by selecting a historical record for analysis based upon one or more of the following:

a) the database utility command;

b) an option specified with a previously executed instance of the database utility command;

c) the time that the previously executed instance of the database utility command was executed;

d) the day that the previously executed instance of the database utility command was executed;

e) a processor load on a machine executing a previously executed instance of the database utility command; and

f) a storage access load on a machine executing a previously executed instance of the database utility command.

2. (ORIGINAL) The method of claim 1, wherein said using the time historical record includes analyzing the time historical record by using a statistical analysis technique to estimate the time required to execute the database command.

3. (ORIGINAL) The method of claim 2, wherein said analyzing the time historical record includes computing an average execution time based upon information concerning the database command from the time historical record.

4. (ORIGINAL) The method of claim 3, wherein the average execution time is $AvT = \sum M(i) / N$, where i is an integer and varies from 1 to N, N equals the number of measurements recorded in the historical record of the execution time of the database command, and M(i) is an ith measurement of the execution time of the database command.

5. (ORIGINAL) The method of claim 2, wherein said analyzing the time historical record includes computing a moving range between prior measurements of the database command, based upon information from the time historical record.

6. (ORIGINAL) The method of claim 5, wherein the moving range is $MR(i)=M(i+1)-M(i)$, where i is an integer that varies from 1 to N , and M is a measurement of an execution time of the database command.

7. (ORIGINAL) The method of claim 2, wherein said analyzing the time historical record includes computing a maximum execution time.

8. (ORIGINAL) The method of claim 7, wherein said analyzing the time historical record includes computing the maximum execution time based upon a specified confidence value.

9. (ORIGINAL) The method of claim 8, wherein the specified confidence value is configurable based upon a probability that the database command will execute in less time than the computed maximum execution time.

10. (ORIGINAL) The method of claim 7, further comprising:
executing the database command;
measuring a time to execute the database command; and
issuing a warning if the measured time to execute the database command exceeds the maximum execution time.

11. (ORIGINAL) The method of claim 10, wherein the warning is a warning that a configuration of the database may have changed.

12. (ORIGINAL) The method of claim 2, wherein said analyzing the time historical record includes computing a minimum execution time.

13. (ORIGINAL) The method of claim 12, wherein said analyzing the time historical record includes computing the minimum execution time based upon a specified confidence value.

14. (ORIGINAL) The method of claim 13, wherein the specified confidence value is configurable based upon a probability that the database command will execute in less time than the computed minimum execution time.

15. (ORIGINAL) The method of claim 12, further comprising:
executing the database command;
measuring a time to execute the database command; and
issuing a warning if the measured time to execute the database command is less than the minimum execution time.

16. (ORIGINAL) The method of claim 15, wherein the warning is a warning that a configuration of the database may have changed.

17. (CANCELED).

18. (CURRENTLY AMENDED) The method of claim 171, further comprising recording within the time historical record the time of execution of said measured database utility command.

19. (ORIGINAL) The method of claim 18, further comprising recording within the time historical record the day of execution of said measured database utility command.

20. (CURRENTLY AMENDED) The method of claim 171, further comprising recording within the time historical record a database utility command option executed with said measured database utility command.

21. (CURRENTLY AMENDED) The method of claim 171, further comprising recording within the time historical record a processor load of a computer executing said measured database utility command.

22. (CURRENTLY AMENDED) The method of claim 171, further comprising recording within the time historical record a storage access load of a computer executing said measured database utility command.

23. (CANCELED).

24. (ORIGINAL) The method of claim 1, further comprising determining if a plurality of database commands can execute within a fixed timeframe by analyzing each of the plurality of commands based on prior execution time measurements for each of the plurality of database commands.

25. (CANCELED).

26. (ORIGINAL) The method of claim 1, wherein said database command is a command file containing a plurality of database commands.

27. (ORIGINAL) The method of claim 26, wherein times required to execute database commands within said command file have been estimated, the method further comprising:

editing the database command file;
analyzing the time historical record using a statistical analysis technique to generate new estimates of the time required to execute database commands contained within the edited command file.

28. (CURRENTLY AMENDED) An apparatus for predicting the time required to execute a database command, comprising:

a historical record module having recorded therein a plurality of measurements of execution times of the database command wherein the database command is a database utility command;

an analysis module coupled to the historical record module and configured to analyze the measurements recorded in the historical record module by selecting a historical record for analysis based upon one or more of the following:

a) the database utility command;

b) an option specified with a previously executed instance of the database utility command;

c) the time that the previously executed instance of the database utility command was executed;

d) the day that the previously executed instance of the database utility command was executed;

e) a processor load on a machine executing a previously executed instance of the database utility command; and

f) a storage access load on a machine executing a previously executed instance of the database utility command; and

a utility scheduling module configured to determine whether to execute the database command based on an analysis of the database command measurements.

29. (ORIGINAL) The apparatus of claim 28, wherein the analysis module is configured to statistically analyze the time historical record to estimate the time required to execute the database command.

30. (CANCELED).

31. (ORIGINAL) The apparatus of claim 30, wherein the utility scheduling module is configured to determine whether a plurality of database commands can execute within a fixed timeframe based on the analysis module analyzing measurements relating the plurality of measurements recorded in the historical record module.

32. (ORIGINAL) The apparatus of claim 30, further comprising a user interface module configured for enabling a user to specify the database command to be analyzed.

33. (CURRENTLY AMENDED) An apparatus for predicting a time for executing a database command, comprising:

means for measuring a time to complete the database command wherein the database command is a database utility command;

means for recording the measured time, thereby creating a time historical record; and

means for analyzing the time historical record to estimate the time required to execute the database utility command by selecting a historical record for analysis based upon one or more of the following:

- a) the database utility command;
- b) an option specified with a previously executed instance of the database utility command;
- c) the time that the previously executed instance of the database utility command was executed;
- d) the day that the previously executed instance of the database utility command was executed;
- e) a processor load on a machine executing a previously executed instance of the database utility command; and
- f) a storage access load on a machine executing a previously executed instance of the database utility command.

34. (ORIGINAL) The apparatus of claim 33, wherein said means for analyzing uses a statistical analysis technique to analyze the time historical record to estimate the time required to execute the database command.

35. (ORIGINAL) A computer program embodied on a computer readable medium for predicting a time for executing a database command, comprising:

program instructions for measuring a time to complete execution of the database command wherein the database command is a database utility command;
program instructions for recording the measured time, thereby creating a time historical record; and
program instructions for analyzing the time historical record to estimate the time required to execute the database utility command by selecting a historical record for analysis based upon one or more of the following:

- a) the database utility command;
- b) an option specified with a previously executed instance of the database utility command;
- c) the time that the previously executed instance of the database utility command was executed;
- d) the day that the previously executed instance of the database utility command was executed;
- e) a processor load on a machine executing a previously executed instance of the database utility command; and
- f) a storage access load on a machine executing a previously executed instance of the database utility command.

36. (ORIGINAL) The computer program of claim 35, wherein said program instructions for analyzing use a statistical analysis technique to analyze the time historical record to estimate the time required to execute the database command.

37. (NEW) A method for predicting the time required to execute a database command, comprising:

measuring a plurality of execution times to complete the database command wherein the database command is a database utility command;

recording the measured execution times, thereby creating a time historical record;

using the time historical record to estimate the time required to execute the database command by selecting a historical record for analysis based upon one or more of the following:

a) the database utility command;

b) an option specified with a previously executed instance of the database utility

command;

c) the time that the previously executed instance of the database utility command was executed;

d) the day that the previously executed instance of the database utility command was executed;

e) a processor load on a machine executing a previously executed instance of the database utility command; and

f) a storage access load on a machine executing a previously executed instance of the database utility command;

wherein said database command is a command for which a time required to execute has been estimated, the method further comprising:

editing the database command;

analyzing the time historical record using a statistical analysis technique to generate an estimate of the time required to execute the edited database command.